1. INTRODUCTION

1.1 Train movement accounts for most of the natural air circulation in the Transit Subway System. A moving subway train pushes air ahead of itself and forces air out of subway gratings, stations, stairways and other openings. The train also pulls in fresh air from the same openings as it passes. This piston action is generally sufficient to provide enough air movement through stations for patron comfort. However, when train traffic is stopped, ventilation is greatly decreased.

1.2 Sections of the Transit System are equipped with a mechanical ventilation system that utilizes large ventilation fans for air movement when natural ventilation is inadequate. This mechanical ventilation system may have a significant effect on Fire Department operations at subway fires, especially when under-river tubes are involved.

1.3 For the purpose of this Addendum reference to Incident Commander is presumed to mean an officer above the rank of Captain.

2. MECHANICAL VENTILATION EQUIPMENT

2.1 There are approximately 200 ventilation fan plants located throughout the Transit System, with each fan plant having between one and four fans. Most of the plants have a single fan. Plants serving under-river tubes may have up to four fans.

2.2 With the exception indicated in the note, fans are located at both ends of all other under-river tubes.

Note: The Lenox-White Plains tube of the Broadway IRT line located between the 135th and 149th Street stations, has no fans at either end of the tube.

2.3 Not every subway station has an associated fan plant. Fans are not universally distributed throughout the subway system.

2.4 Each fan plant has a 4 digit identification number Fan plant identification numbers and locations have been entered into the FDNY Computerized Dispatch System via CIDS, and may appear as additional information on the teleprinter dispatch ticket.

2.5 Individual fans have an air movement capacity of between 50,000 and 300,000 CFM.
2.6 Most Transit System ventilation fans operate in the exhaust mode. A small number operate in the supply mode. Ventilation fans associated with under-river tubes are reversible, as are replacement fans. On some older type fans, the direction of the airflow can be changed by moving dampers.

2.7 Fans will not be affected when power removal is ordered by the Fire Department.

3. **FAN OPERATION BY THE TA**

3.1 TA will activate fans prior to FDNY arrival, if in their judgment such activation will provide relief to exposed train passengers. This decision will be based on information received from TA employees at the incident. (See section 4.1 for FDNY policy on fan activation.)

3.2 In the event that fans have been activated prior to FDNY arrival, the TA will notify the IC, via the FDNY dispatcher, of the location of the fans and the mode in which they are operating.

3.3 When fans have been activated by the TA prior to FDNY arrival, control of the fans passes to the FDNY upon the arrival of the IC.

4. **FAN OPERATION BY FDNY**

4.1 It is FDNY policy to order fan activation only after the IC has assessed the need for and potential impact of such action based on an on-site size-up.

4.2 The effect of fan activation on fire/evacuation operations must be carefully observed and evaluated. The IC must be alert to changing conditions and recognize that fan activation can have a positive or negative impact on operations.

4.3 Where fans have been activated by the TA prior to FDNY arrival, the IC must determine, as quickly as possible, if fan operation should be shut down and convey that information to TA via FDNY dispatcher.

4.4 The IC shall notify all FDNY units on the scene of any fan activation or shutdown. Units shall notify the IC of any adverse conditions resulting from the aforementioned.

4.5 The IC can request, via the FDNY dispatcher, information regarding fan capability in the vicinity of the operation.

4.6 Exhaust fans that are remote from the actual fire area can draw the products of combustion for long distances and expose passengers on trains and on station platforms to conditions that might cause panic or otherwise endanger them.
4.7 Units should be aware that, depending on the fire location and severity, fans operating in close proximity to emergency exits may cause smoke and heat to be drawn in the direction of members entering the track area from those exits. This is particularly pertinent in the case of under-river tubes.

4.8 All FDNY requests to the TA for fan activation or shutdown must be directed through the IC to the FDNY dispatcher.

5. **EVACUATION**

5.1 FDNY personnel should never be permitted to operate on track areas unless notified via FDNY dispatcher that the power is off. This rule may be ignored only if life is in imminent peril and direct and immediate action is required to save life.

5.2 Whenever evacuation or removal of passengers from a train to the track or benchwall is contemplated, the power shall be ordered off. All efforts shall be exerted to prevent panic and to keep people off the tracks until this is accomplished.

5.3 The ventilation fans of under-river tubes are reversible, that is, capable of being operated in either the supply or exhaust mode and are located at both ends of the tube. The IC may opt to activate fans at one end of the tube only or activate the fans at both ends of the tube, one in the exhaust mode and the other in the supply mode.

5.4 The evacuation of passengers from under-river tubes should take place away from any fan operated in the exhaust mode. In this way, the forced airflow will draw fresh air into the faces of the evacuating passengers and remove smoke from the area to which they are evacuating.

5.5 In a smoke condition, the track bed may be more comfortable for the passengers than the benchwall (AKA catwalk), since the track bed may be below the smoke level. However, both the track bed and benchwall are acceptable avenues of evacuation.

6. **COMMUNICATION AND CONTROL AT MAJOR INCIDENTS**

6.1 Fires/evacuation involving under-river tubes can create unique problems since units from two boroughs are usually involved.

6.2 At major incidents, the potential exists to have an IC at both ends of the tube, with no one in overall command of the total operation. Consequently, the Borough Dispatcher shall be contacted to determine if simultaneous operations are taking place at the other end of the tube.
6.3 If simultaneous operations are taking place at a major incident, a decision must be made early in the operation as to which borough will control the incident. Consideration should be given to having all units operate on the same borough frequency.

A Command Post must be established at one end of the tube at a location determined by the IC. A Sector Supervisor, or Branch Director if established, can supervise operations on the other end of the tube.

7. CONCLUSION

7.1 Nothing in this Addendum should be construed to require or mandate the use of subway ventilation fans at FDNY subway operations. The decision to use, or not to use, fans must be made by the IC after an assessment of the need for, and potential impact of, such action.